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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,499	03/26/2002	Yasuji Hiramatsu	215899US2PCT	6654

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EXAMINER

RHEE, JANE J

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 05/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,499

Applicant(s)

HIRAMATSU ET AL.

Examiner

Jane J Rhee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6,8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atari et al. (5413360) in view of Kawada et al. (5665260).

Atari et al. discloses a nitride ceramic substrate comprising 0.05 to 10% by weight of oxygen (col. 6 lines 19-22) and wherein the material of the ceramic substrate consists of aluminum nitride and silicon nitride (col. 6 line 1). Atari et al. discloses that the ceramic substrate contains an oxide (col. 6 line 22). Atari et al. discloses that the ceramic substrate is disk shaped (figure 6). Atari et al. discloses that the ceramic substrate is used at a temperature of 100 degrees Celsius or higher (col. 5 line 63). Atari et al. discloses that the ceramic heater is used in the semiconductor industry (col. 1 line 8).

It has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2USPQ2d 1647 (1987).

Atari et al. fail to disclose a heating element formed on a surface of a nitride element. Atari et al. fail to disclose a ceramic substrate selected from the group

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consisting of boron nitride and a titanium nitride. Atari et al. fail to disclose that the ceramic substrate has a thickness of 50mm or less.

Kawada et al. teaches a heating element formed on a surface of a nitride element for the purpose of obtaining long durability because the bonded layers will not separated during repeated heating and cooling (col. 2 lines 29-31). Kawada et al. teaches a ceramic substrate with a thickness of 50mm or less (col. 5 line 56) selected from the group consisting of boron nitride and a titanium nitride (col. 3 lines 7-8) for the purpose of creating an electrically insulating ceramic (col. 3 lines 3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Atari et al. with a heating element formed on a surface of a nitride element in order to obtain long durability so that the bonded layers will not separated during repeated heating and cooling (col. 2 lines 29-31) as taught by Kawada et al.

Also it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Atari et al. with a ceramic substrate with a thickness of 50mm or less selected from the group consisting of boron nitride and a titanium nitride in order to create an electrically insulating ceramic (col. 3 lines 3) as taught by Kawada et al.

Since Atari et al. discloses the layers desired by the applicant it is inherent that the ceramic substrate has a leakage quantity of 10^{-7} Pa • m³/sec (He) or less. In any event, it would have been obvious to one of ordinary skill in the art at the time

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applicant's invention was made to modify the leakage quantity in order to obtain optimum results.

2. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atari et al. and Kawada et al. in view of Yano et al. (5232765).

Atari et al. and Kawada et al. disclose the ceramic heater described above. Atari et al. and Kawada et al. fail to disclose an oxide selected from the group consisting of alkali metal oxide, alkaline earth metal oxide, and rare earth oxide. Yano et al. teaches an oxide selected from the group consisting of alkali metal oxide, alkaline earth metal oxide, and rare earth oxide (col. 4 lines 22 and 35-38) for the purpose of adjusting the strength and thermal expansion coefficient of the ceramic substrate (col. 4 lines 18-19).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Atari et al. and Kawada et al. with an oxide selected from the group consisting of alkali metal oxide, alkaline earth metal oxide, and rare earth oxide in order to adjust the strength and thermal expansion coefficient of the ceramic substrate (col. 4 lines 18-19) as taught by Yano et al.

Response to Arguments

3. Applicant's arguments with respect to claims 2-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

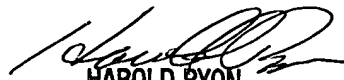
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane J Rhee whose telephone number is 703-605-4959. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 703-308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jane Rhee

Jane Rhee
5/7/03


HAROLD PYON
SUPERVISORY PATENT EXAMINER
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5/14/03